that all kinds of excitants act in the same way, the effects differing in intensity, not in direction. In all these respects, and in others of less importance, the electrical plate agrees with muscle and nerve. Inasmuch, therefore, as we have met with a structure of which the development of electrical action is the exclusive function, there seems to be good reason for the hope that by its investigation a nearer approach may be made than has hitherto been possible to the central question—that of the reason why in all animal structures the transition from the inactive to the active state is, so far as our present knowledge teaches, always accompanied by electrical change.

The question why certain fish are endowed with so singular a means of offence and defence, which others allied to them zoologically do not possess, and, above all, why some fish have electrical organs so small as to be useless, is as difficult to answer now as when Mr. Darwin wrote the 'Origin of Species.' The facts relating to the development of the organ, which teach us to regard it as, in some sense, a modified muscle, might suggest that the transition from muscle to organ was a gradual one, determined by external conditions. But we are prevented from accepting any such suggestion by the consideration that an electrical organ only becomes advantageous to its possessor when it has acquired sufficient size to be used in the capture of prey, and that in all previous stages of transition it must be useless. Natural selection could not therefore determine the development of the electrical organ by modification of muscle. It is more reasonable to imagine that all fish, or at any rate certain families of fish, possess an undeveloped element of structure, of which the electrical organ is the manifestation. So that what we have to account for is not its presence in some exceptional cases, but its absence in the great majority.

The existence of such a tendency as this hypothesis supposes would render it possible for natural selection to operate efficiently in bringing about the observed result.

GEOLOGICAL SOCIETY.

November 9, 1887.—Prof. J. W. Judd, F.R.S., President, in the Chair.

The following communication was read:—

"Note on the so-called 'Soapstone' of Fiji." By Henry B. Brady, F.R.S.

The Suva deposit, which has a composition very similar to that of the volcanic muds at present forming around oceanic islands in the Pacific, is friable and easily disintegrated. The colour ranges from nearly white to dark grey, the mass being usually speckled

with minerals of a darker hue. Under the microscope the rock presents the character of a fine siliceous mud with crystals of augite &c., together with the sparsely scattered tests of Foraminifera. The approximate chemical composition of typical specimens is:—Silica, 50 per cent.; alumina, 18 per cent.; lime and magnesia, from 5 to 6 per cent.; ferric oxide, from 3 to 8 per cent.; water, 16 per cent., with a small proportion of alkalies, chiefly potash, and but small trace of carbonates.

The Author's attention was chiefly directed to the common grey friable rock, which may be softened in water and washed on a sieve, the residue consisting mainly of Foraminifera with a few Ostracoda. Of three specimens examined, 1 is a light-grey rock from close to the sea-level; 2, of a lighter colour, from about 100 feet elevation; 3 is nearly white and somewhat harder, and was derived from an intermediate point. So far as the Microzoa are concerned, the first two present no differences which might not be observed in dredgings from the recent sea-bottom, taken at similar depths a little distance apart. The third appears to have been deposited in somewhat deeper water. There is a marked scarcity of arenaceous Foraminifera.

Then followed notes on the rarer and more interesting species, together with a list of the 92 species of Foraminifera found. Of these, 87 are forms still living in the neighbourhood of the Pacific islands. Two of the remaining 5 are new to science, and the rest extremely rare. The Author concluded that these deposits are of Post-Tertiary age, formed at depths of from 150 to 200 fathoms in the neighbourhood of a volcanic region. The following new or little-known species were selected for illustration:—*Ellipsoidina ellipsoides*, var. *oblonga*, Seguenza; *Haplophragmium rugosum*, D'Orb.; *Ehrenbergina bicornis*, sp. nov.; *Sphæroidina ornata*, sp. nov.

MISCELLANEOUS.

Ægа crenulata, Lütken. By J. Duncan Matthews, F.R.S.E.

The capture off the Scottish coast of a Crustacean hitherto unrecorded from British waters seems of sufficient interest for publication.

The specimen was a parasitic Isopod, and was procured by Mr. Murray, Fishery Officer, Stonehaven, and by him forwarded to the scientific department of the Fishery Board for Scotland. Sent to the Rev. Dr. Norman for identification, it was described by him as a specimen of *Ægа crenulata*, Lütken, "a Greenland form not previously found in our seas."

This *Ægа* was taken in October 1886 from a large shark caught entangled on lines about 8 miles off Stonehaven. Unfortunately